

REMARKS

This communication is a full and timely response to the aforementioned final Office Action dated February 21, 2008. By this communication, claim 1 is amended, and claims 5 and 21-23 are cancelled. Claims 2-4, 11-14, 19 and 24-26 are not amended and remain in the application. Thus, claims 1-4, 11-14, 19 and 24-26 are pending in the application. Claims 1, 11 and 19 are independent.

Reconsideration of the application and withdrawal of the rejections of the claims are respectfully requested in view of the foregoing amendments and the following remarks.

I. Double Patenting Objection

Claims 5 and 21-23 were objected to as allegedly being "substantial duplicate[s]" of claims 1-4, respectively. Without acquiescing to this objection, claims 5 and 21-23 have been cancelled to place the application in condition for allowance.

II. Objection to Specification

The specification was objected to for allegedly failing to provide proper antecedent basis for the claimed subject matter. In particular, the Office noted that paragraph [0094] of the published application, which corresponds to paragraph [0091] spanning pages 27 and 28 of the specification, describes a "computer-readable recording medium."

The preamble of claim 1 recited a "computer-readable medium." In view of the Office's interpretation of a "computer-readable medium" as possibly constituting a signal or carrier wave, the preamble of claim 1 has been amended to recite a "computer-readable recording medium," consistent with the disclosure of paragraph [0091] of the specification.

Accordingly, Applicant respectfully requests that the objection to the specification be withdrawn, since the specification provides proper antecedent basis for the claimed subject matter of claim 1, as well as claims 2-4 depending therefrom.

III. Rejections Under 35 U.S.C. § 101

The rejections of claims 1-4 under 35 U.S.C. § 101 has been overcome in view of the amendment to the preamble of claim 1. See MPEP 2106.01.I, first paragraph. Accordingly, Applicant respectfully requests that the rejections of claims 1-4 under 35 U.S.C. § 101 be withdrawn.

IV. Rejections Under 35 U.S.C. § 103(a)

A. Claims 1, 2, 5, 11, 12, 19 and 24 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over "Unix Communication Notes: 129" (hereinafter "Notes 129") in view of Seiji (JP-5108487). This rejection is respectfully traversed for the following reasons.

Exemplary embodiments of the present invention provide a method and computer program for causing a controlling apparatus intended to control an image forming apparatus, as well as a controlling apparatus for controlling an image forming apparatus. One example configuration of the controlling apparatus is illustrated in Figure 1, in which a computer 200 is limited to controlling an image forming apparatus such as copying machine 300 (see paragraph [0023] on page 7 of the specification).

As illustrated in Figure 3, a hard disk 204 of the computer 200 includes a database 240 in which a file list 241 is stored. The file list 241 is a list of all files, such as programs, required to exist in a specific storage area of a logical drive of hard disk 204 for controlling a multifunctional peripheral (MFP) 100 that includes the computer 200 and copying machine 300 (see, e.g., paragraph [0039]). As described in paragraph [0041] on page 11, the file list 241 is set up prior to factory shipment of MFP 100 and the controlling apparatus, and is stored in the hard disk 204 of the controlling apparatus. Accordingly, the file list 241 is a prestored list of programs and files that are known (approved) to control the image forming apparatus, such as the copying machine 300 illustrated in Figure 1, for example.

According to the exemplary configuration in which the controlling apparatus (e.g., computer 200) is limited to controlling an image forming apparatus, the controlling apparatus is different from a general-purpose computing device in which a user may wish to add, modify or remove programs and files at will for various

purposes. On the other hand, since the function of the controlling apparatus is limited to controlling the image forming apparatus, according to the exemplary configuration illustrated in Figure 1, the preset list of programs in the file list 241 represents a limited number of programs that are authorized to be run on the controlling apparatus to control the image forming apparatus.

When a computer virus infiltrates into a computer, the virus often creates a new program and/or file. In the case of a general-purpose computing device, the number of programs and files that can be run is not limited to a preset list, because of the desire to allow users to add new programs or files and modify or delete existing programs or files. For example, general purpose computing devices are configured to allow users to add software programs containing executable and non-executable files, and add new non-executable files, such as a word processing document, for example. Therefore, conventional virus detection systems seek to compare a file against files that are known to be created by known viruses.

On the other hand, since the preset list of programs in the file list 241 represents a limited number of programs that are authorized be run on the controlling apparatus to control the image forming apparatus, the detection of a program that is not included in the file list 241 is judged to be an illegal program resulting from a computer virus infection. This judgment can be carried out because a limited number of programs that are authorized to be run on the controlling apparatus are stored in the preset list of programs.

Claims 1, 11 and 19 broadly encompass various features of the above-described exemplary embodiment.

Claim 1 recites a computer program stored on a computer-readable recording medium and causing a controlling apparatus intended to control an image forming apparatus to execute the following procedures:

- (1) confirming each program running on the controlling apparatus:
- (2) judging a program, which is **not included** in a preset list of programs that can be run to control the image forming apparatus among programs whose running states have been confirmed, as an illegal program resulting from a computer virus infection; and
- (3) deleting or isolating the program that is judged to be the illegal program.

Claim 11 recites a controlling apparatus for controlling an image forming apparatus. The controlling apparatus of claim 11 comprises a storage unit for storing in advance a list of programs that can be run for controlling the image forming apparatus. The controlling apparatus of claim 11 also comprises a processor that is configured to perform functions corresponding to procedures (1)-(2) of claim 1.

Claim 19 recites a controlling method for a controlling apparatus intended to control an image forming apparatus. The method of claim 19 comprises steps corresponding to procedures (1)-(3) of claim 1.

Accordingly, features (1)-(2) of claim 1 are common to each of independent claims 1, 11 and 19. Claims 1, 11 and 19 thus recite that each program running on the controlling apparatus is confirmed, and a program, which is not included in a preset list of programs that can be run to control the image forming apparatus among programs whose running states have been confirmed, is judged as an illegal program resulting from a computer virus infection.

Thus, claims 1, 11 and 19 recite that programs that can be run to control the image forming apparatus are included in a preset list of programs. This preset list therefore contains programs that are known (approved) to control the image forming apparatus. However, if a program is confirmed to be running on the controlling apparatus and that confirmed program is not included in the preset list of programs, it is judged to be an illegal program resulting from a computer virus infection.

Notes 129 discloses that a hidden file in a file system (Unix operating system) can be discovered by comparing an existing list of files present in the file system with a file list that was prepared in advance (see page 1). A "diff command" is then used to determine whether the existing file list contains any files that are not present in the previously prepared file list.

Accordingly, Notes 129 discloses that a hidden file in a file system can be discovered by comparing an existing list of files present in the file system with a file list that was prepared in advance.

As acknowledged by the Office, Notes 129 does not disclose or suggest that a hidden file that is discovered by comparing the existing list of files with the previously stored list of files is judged to be an illegal program resulting from a computer virus infection.

In an attempt to teach this feature, the Office applied Senji. The Office, however, misapplied and mischaracterized the disclosure of Senji in rejecting claims 1, 11 and 19.

On page 5 of the Office Action, the Office asserted that "Senji discloses judging a program, which is not included in a preset list of programs that can be run to control...the image forming apparatus...among programs whose running states have been confirmed, as an illegal program resulting from computer virus infection." This assertion is not supportable for the following reasons.

Seiji discloses that an application program 3 can issue demands to a computer system's operating system 5, BIOS 7 or hardware 1 (e.g., printer) connected to the computer system (see paragraphs [0009]-[0011]). Seiji discloses that separate virus supervisory systems A-C respectively suitable for operation with the operation system 5, BIOS 7 and hardware 1 intercept a demand from the application program 3 and determine whether the demand is infected with a virus by comparing the demand with a pre-stored list of known viruses (see paragraphs [0016], [0017] and [0026]). The intercepting virus supervisory system A-C prohibits the demand from reaching the operation system 5, BIOS 7 and/or hardware 1 if the demand is infected with a virus that matches a virus stored in the pre-stored list (see paragraph [0016]).

Accordingly, with particular reference to paragraph [0016], Senji discloses that illegal programs resulting from various kinds of computer virus are stored as a database which is prepared ahead of time. Therefore, Senji discloses that a program which is included in a list of known viruses is judged to be an illegal program.

Consequently, Senji's technique of judging whether a virus is present is entirely different from feature (2) of claims 1, 11 and 19. In particular, Senji teaches the exact opposite of feature (2) of claims 1, 11 and 19, because Senji requires the viruses to be known ahead of time and stored in a list of known viruses, and then, the demand is compared with the pre-stored list of known viruses.

Accordingly, Senji is entirely different from feature (2) of claims 1, 11 and 19, in that Senji requires *a priori* knowledge of a virus before it can be judged to be a virus.

On the other hand, feature (2) of claims 1, 11 and 19 do not require *a priori* knowledge of whether a program is an illegal program resulting from a computer virus infection. In particular, claims 1, 11 and 19 each recite that the preset list of programs represents the programs that can be run to control the image forming apparatus, and a program whose running state has been confirmed is judged to be an illegal program when the confirmed program is not included in the preset list of programs.

Accordingly, for at least the foregoing reasons, Applicant respectfully submits that neither Notes 129 nor Senji disclose or suggest judging a program, which is not included in a preset list of programs that can be run to control the image forming apparatus among programs whose running states have been confirmed, as an illegal program resulting from a computer virus infection, as recited in claims 1, 11 and 19.

On page 8 of the Office Action, the Office asserted that Applicant cannot show nonobviousness by attacking references individually where the rejections are based on a combination of references.

The disclosure of the applied references has been addressed above. Applicant has not attached the references individually. On the contrary, Applicant has demonstrated that both Notes 129 and Senji fail to disclose or suggest all the recited features of claims 1, 11 and 19.

The Office is respectfully reminded that, to establish a *prima facie* case of obviousness, the applied references must disclose or suggest all the recited features of the claims. See MPEP 2142; 706.02(j). If the applied references fail to disclose or suggest one or more of the features of a claimed invention, then the rejection is improper and must be withdrawn.

As demonstrated above, Notes 129 and Senji each fail to disclose or suggest at least feature (2) of claims 1, 11 and 19. Therefore, no obvious combination of Notes 129 and Senji would result in the subject matter of claims 1, 11 and 19, since Notes 129 and Senji, either individually or in combination, fail to disclose or suggest all the recited features of claims 1, 11 and 19.

Furthermore, Applicant respectfully submits one skilled in the art would not have reason or been motivated to modify Notes 129 and Senji to arrive at the subject matter of claims 1, 11 and 19. The techniques disclosed in Notes 129 and Senji are

disclosed for general purpose computing devices, not for a controlling apparatus intended to control an image forming apparatus in which the programs that can be run therefor are included in a preset list of programs.

Therefore, for at least the foregoing reasons, Applicant respectfully submits that claims 1, 11 and 19, as well as claims 2-4 and 24-26 which depend therefrom, are patentable over Notes 129 and Shoji.

B. Claims 3, 4, 8, 9, 13, 14, 17 and 18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Notes 129 in view of Seiji and further in view of Yamamoto (U.S. Patent No. 5,881,151). This rejection is believed to be moot with respect to claims 8, 9 13, 14, 17 and 18 in view of the cancellation of these claims.

As demonstrated above, Notes 129 and Seiji each fail to disclose or suggest at least feature (2) of claims 1, 11 and 19.

Similarly, Yamamoto also fails to disclose or suggest feature (2) of claims 1, 11 and 19. Therefore, no obvious combination of Notes 129, Seiji and Yamamoto would result in the subject matter of claims 1, 11 and 19, since Notes 129, Seiji and Yamamoto, either individually or in combination, fail to disclose or suggest each and every feature of claims 1, 11 and 19.

Furthermore, in view of the distinctions discussed above, Applicant respectfully submits that one skilled in the art would not have been motivated or have reason to modify Notes 129, Seiji and Yamamoto in such a manner as to result in, or otherwise render obvious, the subject matter or claims 1, 11 and 19.

Accordingly, for at least the foregoing reasons, Applicant respectfully submits that claims 1, 11 and 19, as well as claims 2-4 and 21-26 which depend therefrom, are patentable over the applied references.

V. Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is clearly in condition for allowance. Accordingly, a favorable examination and consideration of the instant application are respectfully requested.

If, after reviewing this Response, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, the Examiner is respectfully requested to contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

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